



MACS 2009 Annual Report

25 YEARS OF HELPING FARMERS PROTECT THE BAY



MARYLAND AGRICULTURAL WATER QUALITY COST-SHARE PROGRAM

The MACS Mission

Since 1984, the Maryland Agricultural Water Quality Cost-Share (MACS) Program has been helping farmers protect natural resources on their farms, adopt sustainable agricultural practices and comply with a growing list of federal, state and local environmental requirements. MACS provides farmers with grants to cover up to 87.5 percent of the cost to install conservation measures known as best management practices (BMPs) on their farms to prevent soil erosion, manage nutrients and safeguard water quality in streams, rivers and the Chesapeake Bay. Cover crops planted after the harvest to take up leftover fertilizers, streamside buffers of grasses and trees planted to protect waterways from sedimentation and farm runoff, and animal waste management systems constructed to help farmers safely handle and store manure resources are among 30 BMPs currently eligible for MACS grants.

Message from the Secretary of Agriculture



2009 marks our 25th year of extraordinary success in helping farmers do their part to protect water quality in the streams and rivers

that feed our great Chesapeake Bay. More than just another government incentive program, the Maryland Agricultural Water Quality Cost-Share (MACS) Program is the cornerstone of Maryland's efforts to protect natural resources and Governor Martin O'Malley's plan to accelerate the Bay cleanup. MACS provides farmers with the financial resources they need to place conservation practices on their farms to control soil erosion, manage nutrients, protect wildlife habitat and ensure the health and safety of all Maryland waterways.

I am pleased to report that MACS has grown tremendously over the last quarter century and that farmer interest and action in protecting natural resources has reached unprecedented levels. Despite the recent economic downturn, 2009 was our most successful year on record.

To put matters into perspective, back in 1984 MACS provided Maryland farmers with \$434,000 in grants to

install roughly 130 conservation projects on their farms. This year, MACS provided Maryland farmers with a record \$19 million in grants to install 2,370 conservation projects on their farms. Farmers who received MACS grants over the last 25 years invested more than \$14 million of their own money into these conservation projects and must shoulder additional maintenance and upkeep expenses for a minimum of 10 years. Such action on the part of Maryland farmers dispels the notion that conservation takes a back seat—even in tough economic times.

A lot has changed in 25 years. In 1984, most of the conservation practices funded by MACS were used to control soil erosion and reduce the devastating effects of sedimentation in the Chesapeake Bay and its tributaries. Today, farmers are installing state-of-the-art waste management systems and innovative heavy use areas for poultry and livestock operations aimed at curbing nutrient movement into surface and groundwater. Many of these systems—which can cost upwards of \$100,000—are now required by regulation for certain animal operations.

In recent years, our Cover Crop

Program has expanded in both popularity and scope thanks to new, dedicated funding being provided by the Chesapeake Bay Restoration Fund and the Chesapeake Bay 2010 Trust Fund. A rising star in agriculture's efforts to minimize soil losses over the winter and reduce nutrient runoff from crop fields, cover crops planted on Maryland farms saved 1.17 million pounds of nitrogen and 47,800 pounds of phosphorus from entering Maryland waterways this year. They are prominently featured in Governor O'Malley's suite of ambitious two-year milestones aimed at accelerating the Bay cleanup. Cover crops alone are expected to achieve one-third of the Governor's nutrient reduction goals.

But the cumulative efforts of the MACS program speak for themselves: more than 20,000 conservation projects installed over the last quarter century on Maryland farmland. As Maryland ramps up its efforts to achieve even greater nutrient savings for the Bay, MACS will continue to help Maryland farmers lead the way toward a smart, green and growing future.

Earl F. Hance
Maryland
Secretary of Agriculture



MACS and Maryland's Two-Year Bay Milestones

At the 2009 Chesapeake Bay Executive Council meeting, Governor Martin O'Malley announced a series of 27 ambitious two-year actions or milestones aimed at speeding up Maryland's efforts to reduce nutrients entering the Chesapeake Bay and to bolster accountability to the public.

Collectively, the two-year milestones are intended to prevent an additional 3.75 million pounds of nitrogen and 201,000 pounds of phosphorus from reaching the Bay over 2008 levels. Implementing these actions successfully will put Maryland on pace to meet its long-term Bay restoration goals by the newly established deadline of 2020.

Seventeen of the 27 milestones are related to agriculture and focus on increasing the use of certain highly valued best management practices by farmers. These include:

- Doubling the acreage planted in cover crops
- Expanding the amount of manure transported out of the Chesapeake Bay Watershed from poultry farms with high soil phosphorus levels
- Constructing poultry and livestock waste management systems, heavy use areas and streamside protection measures to keep livestock from impacting local streams

- Planting streamside buffers, creating wetlands and protecting highly erodible land.

Most of the milestones for agriculture will be measured and achieved with the help of our conservation partners at Maryland's soil conservation districts and the USDA Natural Resources Conservation Service. For a full description and progress report on agriculture's role in the Bay cleanup visit: www.baystat.maryland.gov/2yearplan.html.

Where We Stand

COVER CROPS

Percent of Milestone Completed: 52%

Goal: Expand the amount of cover crops that are planted annually from 179,400 acres to 460,000 acres.

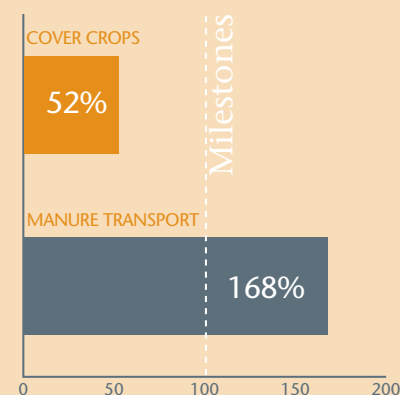
Status: 239,000 acres planted in 2008/2009 growing season

MANURE TRANSPORT

Percent of Milestone Completed: 168%

Goal: Increase the amount of poultry litter transported out of the Bay Watershed annually from 35,000 tons to 45,000 tons

Status: 52,000 tons of poultry litter transported out of the Bay Watershed in 2009





2009 Program Summary

In Fiscal Year 2009, MACS awarded Maryland farmers \$19 million in grants to install 2,370 capital and special projects on their farms to control soil erosion, manage nutrients and protect water quality in streams, rivers and the Chesapeake Bay. This figure represents a 35 percent increase over 2008 due mainly to increased participation in the cover crop program and new cost-share eligibility for poultry house pads. In 2009, Maryland farmers used MACS grants to construct approximately 125 of these concrete pad projects at entrances to poultry houses and waste storage structures to safeguard water quality during poultry house and waste storage cleanouts.

Farmers who received cost-share grants from MACS in 2009 invested more than \$923,000 of their own money into start up costs for these projects. Collectively, the projects will prevent an estimated 1.3 million pounds of nitrogen and 86,900 pounds of phosphorus from entering Maryland waterways each year. Cover crops were responsible for the bulk of the nitrogen savings (1.2 million pounds) and more than 50 percent of the phosphorus savings (47,768 pounds). The projects will protect

SOIL CONSERVATION DISTRICT SUMMARY FOR CAPITAL PROJECTS *Fiscal Year 2009*

District	Completed Projects	Payment Amount
Allegany	7	\$ 34,986
Baltimore County	11	\$ 70,674
Calvert	8	\$ 72,719
Caroline	30	\$ 594,373
Carroll	103	\$ 638,055
Catoctin	21	\$ 139,588
Cecil	10	\$ 87,479
Charles	4	\$ 17,721
Dorchester	30	\$ 515,451
Frederick	49	\$ 440,758
Garrett	9	\$ 78,579
Harford	38	\$ 213,559
Howard	10	\$ 71,851
Kent	52	\$ 200,545
Montgomery	15	\$ 151,738
Prince George's	4	\$ 9,357
Queen Anne's	32	\$ 723,163
Saint Mary's	15	\$ 130,532
Somerset	37	\$1,262,170
Talbot	6	\$ 107,396
Washington County	12	\$ 117,525
Wicomico	26	\$ 667,224
Worcester	41	\$1,312,457
Total	570	\$7,657,900

FISCAL YEAR 2009 PROGRAM SUMMARY

Capital Projects Approved	Number of Projects	Funds
From State Funds	750	\$12,276,035
From Federal Funds	9	\$ 17,700
Total Capital Projects Approved	759	\$12,293,735
Capital Projects Completed	Number of Projects	Funds
CREP Projects with State Funds	72	\$ 104,624
All Other Projects with State Funds	487	\$ 7,396,803
With Federal Funds	11	\$ 156,473
Total Capital Projects Completed	570	\$ 7,657,900
Special Projects Completed	Number of Projects	Funds
Cover Crops	1,571	\$10,714,738
Manure Transport	154	\$ 663,177 ¹
Nutrient Management Plan Cost-Share	75	\$ 85,717
Total Special Projects Completed	1,800	\$11,463,632
TOTAL CAPITAL AND SPECIAL PROJECTS COMPLETED	2,370	\$19,121,532
	Nitrogen	Phosphorus
Estimated Pounds of Nutrients Removed by Capital Projects	100,420	39,168
Estimated Pounds of Nutrients Removed by Cover Crops	1,166,728	47,768
	Tons	Acres of Land
Tons of Soil Saved Per Year ²	12,459	998
Manure Managed Daily with Animal Waste Storage Structures	Tons of Manure	Animal Units ³
Poultry Manure Managed Daily	1,336	60,282
Dairy Manure Managed Daily	79	1,944
Beef Manure Managed Daily	173	5,019
Other Animal Manure Managed Daily	59	1,886
Total Animal Manure Managed Daily	1,647	69,131

¹ Does not include poultry company matching funds

² Based on the Revised Universal Soil Loss Equation (RUSLE)

³ One animal unit = 1,000 lbs. of live animal weight

Note: Nutrient reduction figures are based on the best science available and are consistent with the Chesapeake Bay Model.

streams from sediment pollution and animal waste by managing an estimated 12,459 tons of soil annually and 1,647 tons of manure daily. Cover crops, manure transport, heavy use area protection, grassed waterways, nutrient management consultant services, waste storage structures, livestock fencing, watering facilities, filter strips and grade stabilization structures round out the top 10 practices installed by farmers in 2009 with MACS assistance.

Because MACS grants do not cover the entire cost of installing BMPs, Low Interest Loans for Agricultural Conservation (LILAC) are available to help farmers pay for start up costs and additional expenses on large ticket items. Guaranteed by the State Revolving Loan Fund, LILAC loans are typically offered at rates that are three to four percent below market rates and are available at lending institutions statewide. In Fiscal Year 2009, MACS worked with the Maryland Department of the Environment and soil conservation districts to provide farmers with approximately \$1 million in LILAC loans. The funds were used to help pay for conservation tillage and manure handling equipment as well as waste storage structures, heavy use areas, and agricultural chemical and handling facilities.

CAPITAL APPROPRIATIONS FOR FISCAL YEARS 1984-2009

	Number of Projects	Funds
Projects Approved from State Funds	21,139	\$ 122,233,814
Projects Approved from Federal Funds	1,891	\$ 8,627,379
Total Projects Approved	23,030	\$ 130,861,193
Projects Completed with State Funds	18,342	\$ 89,511,566
Projects Completed with Federal Funds	1,981	\$ 9,174,560
Total Projects Completed	20,323	\$ 98,686,126
Estimated Farmer Out-of-Pocket Costs		\$ 14,000,000

Completed Macs Cost-Shared Practices By District For Fiscal Year 2009

Practice	Allegany	Anne Arundel	Baltimore County	Calvert	Caroline	Carroll	Catoctin	Cecil	Charles	Dorchester	Frederick
Conservation Cover						5		1			
Contour Farming											
Contour Orchard											
Critical Area Planting			1		1	1					1
Dead Bird Composting Facility					2					3	
Diversion								2			
Fencing	3			4		7	3		1		5
Field Border											
Field Windbreak											
Filter Strip					2	5				13	2
Grade Stabilization Structure					7		1	2			2
Grassed Waterway	1		4			33	6	2			17
Heavy Use Area Protection				1	12	7		2	2	14	4
Lined Waterway or Outlet											
No Till											
Pasture & Hay Planting											2
Riparian Forest Buffer					1	2	2				3
Roof Runoff Structure	2					8	3	1			6
Sediment Basin											
Sediment Control Pond			1	1			2	1			1
Spring Development	1		2			7	3				1
Stream Crossing				1		4	1				1
Strip Cropping, Contour											
Strip Cropping, Field											
Terrace System											
Waste Storage Pond											
Waste Storage Structure	1		2		4	10		1	1	3	3
Waste Treatment Lagoon											
Wastewater Treatment Strip						5			1		
Water Control Structure					6						
Water Well				1							1
Watering Facility	3		3	2		7	4	1	1		4
Total	11	0	13	10	35	101	25	13	6	33	53



Garrett	Harford	Howard	Kent	Montgomery	Prince George's	Queen Anne's	St. Mary's	Somerset	Talbot	Washington County	Wicomico	Worcester	Total FY 2009	Cumulative FY88-09
			3		1				1				11	599
													0	47
													0	2
1	2	1				1				3			12	794
					1		6				3	7	22	884
	1	2			1	2							8	473
5	6		2	2	1	2				2			43	1,004
													0	10
													0	2
			6		2	3			1			4	38	1,621
	1	2	13			5							33	1,684
	6	2	32	7	1	6	4		1	2			124	4,219
2	3	1	1			17	3	30	4	1	19	27	150	441
1	2			3		1			1				8	357
													0	12
		1				2							5	6
2	2			1						4			17	1,351
1	4	1	2				1			1			30	567
													0	48
			3			1	2						12	1,042
	1	1											16	1,118
	2			1									10	424
													0	61
													0	69
	1												1	85
													0	36
1	2	1		1		2		6		1	7	9	55	1,998
													0	15
	1												7	30
								2					8	8
	4			1			2						9	159
1	8	2		2			2			1			41	1,833
14	46	14	62	18	4	40	19	44	8	15	29	47	660	20,999

Projects Financed With Special Funds

2008-2009 Cover Crop Program

The Cover Crop Program is the centerpiece in a suite of 27 smart, green and growing actions that Governor Martin O'Malley has established to ramp up the Bay restoration and prevent an additional 3.75 million pounds of nitrogen and 201,000 pounds of phosphorus from reaching waterways by the end of 2011. Increasing the amount of farmland planted annually in cover crops to 460,000 acres will achieve nearly one-third of agriculture's overall nutrient reduction goal.

Initial results are good. Participation in the 2008-2009 Cover Crop Program was up 25 percent from last year, with Maryland farmers planting 238,840 acres of cover crops statewide. MACS provided these farmers with \$10.7 million in grants to help offset associated seed, labor and equipment costs.

Cover crops are planted in the fall after the autumn harvest to help farmers control soil erosion and reduce the amount of nutrients that end up in the bay over the winter. Cereal grains such as rye, wheat and barley are used as cover crops because they continue to grow in cool weather. Once established, cover crops recycle unused plant nutrients remaining in the soil from the previous summer crop, protect fields

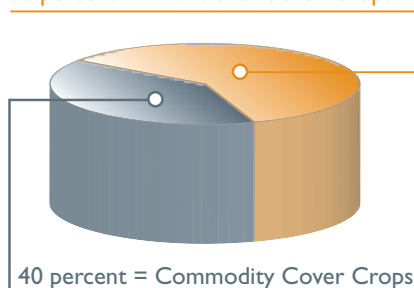
2008-2009 WINTER COVER CROP PROGRAM

District	Contracts	Acres	Total Payment Amount
Allegany	7	211	\$ 9,590
Anne Arundel	13	758	\$ 35,766
Baltimore County	41	4,100	\$ 175,961
Calvert	23	1,603	\$ 64,553
Caroline	132	19,806	\$ 695,791
Carroll	111	13,987	\$ 643,449
Catocin	13	808	\$ 40,191
Cecil	80	13,622	\$ 604,833
Charles	32	3,932	\$ 153,324
Dorchester	107	18,108	\$ 768,249
Frederick	197	18,207	\$ 782,642
Garrett	7	388	\$ 20,263
Harford	64	6,190	\$ 308,705
Howard	18	1,334	\$ 53,176
Kent	144	26,546	\$ 1,375,469
Montgomery	36	6,404	\$ 273,106
Prince George's	25	1,730	\$ 71,666
Queen Anne's	124	19,396	\$ 832,898
St. Mary's	51	8,215	\$ 335,942
Somerset	59	6,280	\$ 249,232
Talbot	108	30,979	\$ 1,457,180
Washington County	50	5,786	\$ 257,648
Wicomico	68	13,546	\$ 703,307
Worcester	61	16,904	\$ 801,839
Total	1,571	238,840	\$10,714,780



ACRES PLANTED IN COVER CROPS

60 percent = Traditional Cover Crops



against wind and water erosion, and help improve the soil for the next year's crop.

MACS offers a Traditional Cover Crop Program, which does not allow for harvest and a Commodity Cover Crop Program for farmers who want to harvest their cover crops. The use of manure and fertilizer is restricted in both programs. Farmers located in high priority watersheds who followed certain environmental guidelines were eligible to receive up to \$90 an acre in cost-share grants through the Traditional Cover Crop Program. Farmers who harvested their cover crops received \$30 an acre in cost-share grants. Approximately 40 percent of the cover crops planted during the 2008-2009 season were harvested.

Funding for the MACS Winter Cover Crop Program is provided largely by the Chesapeake Bay Restoration Fund and the Chesapeake Bay 2010 Trust Fund.

Increasing the amount of excess manure that is transported annually out of the Chesapeake Bay Watershed is one of 27 two-year milestones targeted for completion by 2011 in order to speed up the Bay cleanup. In 2009, Maryland's Manure Transport Program helped poultry and livestock producers ship a record 119,892 tons of excess manure off their farms. Of this figure, 52,000 tons of poultry litter were transported outside of the Chesapeake Bay Watershed. This figure exceeds the milestone goal by 68 percent.

Under the Manure Transport Program, poultry, dairy, beef and other animal producers with high soil phosphorus levels or not enough land to handle all their manure may apply for cost-share grants of up to \$20 per ton to

transport excess manure to other locations that can use the product in an environmentally safe manner. Cost-share rates are 25 percent higher for farms located in Dorchester, Somerset, Wicomico and Worcester counties, due to legislative intent to maximize transport from these counties.

In Fiscal Year 2009, 132 farmers received \$663,177 in state grant payments to transport manure to approved farms and businesses. Delmarva poultry companies provided matching funds to transport poultry litter, bringing the total amount of financial support provided to farmers through the transport program to \$1,167,201. Other animal producers received up to 87.5 percent cost-share or a maximum of \$7,500 per farm.

MANURE TRANSPORT PROGRAM SUMMARY | Payments for Transport

Fiscal Year	Actual Tons Transported	State Cost-Share	Poultry Companies Cost-Share*
FY1999	1,896	\$ 17,992	\$ 17,992
FY2000	13,366	\$ 111,464	\$ 111,464
FY2001	20,477	\$ 195,559	\$ 195,559
FY2002	47,481	\$ 434,610	\$ 420,395
FY2003	28,556	\$ 233,444	\$ 229,645
FY2004	40,755	\$ 295,356	\$ 285,806
FY2005	36,329	\$ 239,196	\$ 200,113
FY2006	69,009	\$ 380,694	\$ 293,728
FY2007	99,297	\$ 490,011	\$ 356,955
FY2008	99,817	\$ 520,357	\$ 370,985
FY2009	119,892	\$ 663,177	\$ 504,024
Total	576,875	\$3,581,860	\$2,986,666

*Match provided for poultry litter only.



Nutrient Management Services

Maryland farmers are required by law to follow nutrient management plans that spell out how they will protect water quality when applying fertilizer, manure or other nutrient sources to their crop fields. Nutrient management plans are tailored to each farm and must be prepared by a University of Maryland Extension specialist, private consultant for hire, or farmer who is trained and certified by MDA to prepare his or her own plan.

MACS provides grants to farmers who hire private, non-government consultants to develop or update nutrient management plans for their farms. The reimbursement rate is 87.5 percent of the cost of the plan, up to \$3,000 per operation. Grants cover one nutrient management plan/update per operator, per year. Certain out-of-pocket expenses incurred by farmers certified to develop their own plans and operators whose plans are developed by Extension consultants are also covered.

During Fiscal Year 2009, MACS issued \$85,718 in cost-share grants to 75 farmers who hired private consultants to develop nutrient management plans covering 40,887 acres of farmland. Due to budget cutbacks, the program ran out of funds during the first three months of the fiscal year and stopped accepting applications.

FISCAL YEAR 2009 DISTRICT SUMMARY FOR NUTRIENT MANAGEMENT COST-SHARE

District	Completed Plans	Acres	Payment Amount
Anne Arundel	2	794	\$ 2,466
Baltimore County	2	278	\$ 898
Caroline	10	10,048	\$11,930
Carroll	1	336	\$ 219
Cecil	18	4,688	\$15,509
Dorchester	4	2,952	\$ 4,750
Frederick	17	7,234	\$20,094
Harford	1	274	\$ 316
Howard	2	1,372	\$ 2,165
Kent	5	2,686	\$ 6,726
Montgomery	1	1,745	\$ 2,625
Queen Anne's	7	3,740	\$10,052
Talbot	3	1,556	\$ 2,968
Wicomico	2	3,184	\$ 5,000
Total	75	40,887	\$85,718





Conservation Reserve Enhancement Program

The Conservation Reserve Enhancement Program (CREP) is a state-federal conservation partnership that pays landowners attractive land rental rates to voluntarily take environmentally sensitive crop and pastureland out of production for 10 to 15 years and plant streamside buffers, protect highly erodible land or establish wetlands to protect the water quality and wildlife habitat of local streams. Increased participation in CREP is a key feature of Maryland's 2011 milestone goals.

MACS provides cost-share grants to CREP participants to help cover the costs of establishing BMPs to protect

water quality and create wildlife habitat on enrolled lands that they have agreed to no longer till or graze. In Fiscal Year 2009, MACS provided 72 landowners statewide with \$105,000 in cost-share funds to install streamside buffers, conservation cover, wetlands, livestock crossings and animal fencing on land enrolled in CREP.

In April of this year, Governor O'Malley and USDA Secretary Tom Vilsak signed an agreement to reauthorize CREP and stimulate participation by offering increased incentives to landowners who protect valuable streamside property or stabilize highly erodible land. Sign-up for

CREP is ongoing until 100,000 acres are enrolled. Established in 1997, the program now has active contracts representing 70 percent of its target with more than 70,000 acres enrolled through the end of Fiscal Year 2009. This figure fluctuates slightly during the course of the year due to contracts that expire as new ones are added. When fully implemented, CREP is expected to prevent 11.5 million pounds of nitrogen and 1.1 million pounds of phosphorus from entering Maryland waterways each year. Sediment loadings to the Bay will also be reduced by an estimated 200,000 tons annually.



Maryland's Soil Conservation Districts— Bringing MACS to Farmers

Maryland's 24 soil conservation districts promote and deliver MACS funding to local farmers. Located in every Maryland county, soil conservation districts—with technical guidance from USDA's Natural Resources Conservation Service—help farmers select the right BMPs for their operations, supervise their installation or construction and develop maintenance plans to keep them in good working order. Agricultural planners working in soil conservation districts also help farmers calculate costs to install BMPs and apply for state and federal cost-share and low interest loans.

SOIL CONSERVATION DISTRICTS	
Allegany	301-777-1747, ext. 3
Anne Arundel	410-571-6757
Baltimore County	410-666-1188, ext. 3
Calvert	410-535-1521, ext. 3
Caroline	410-479-1202, ext. 3
Carroll	410-848-8200, ext. 3
Catoctin	301-695-2803, ext. 3
Cecil	410-398-4411, ext. 3
Charles	301-934-9588, ext. 3
Dorchester	410-228-5640, ext. 3
Frederick	301-695-2803, ext. 3
Garrett	301-334-6951
Harford	410-838-6181, ext. 3
Howard	410-489-7987
Kent	410-778-5150, ext. 3
Montgomery	301-590-2855
Prince George's	301-574-5162, ext. 3
Queen Anne's	410-758-3136, ext. 3
St. Mary's	301-475-8402, ext. 3
Somerset	410-651-1575, ext. 3
Talbot	410-822-1577, ext. 3
Washington County	301-797-6821, ext. 3
Wicomico	410-546-4777, ext. 3
Worcester	410-632-5439, ext. 3



Maryland Department of Agriculture

Office of Resource Conservation

Conservation Grants Program

50 Harry S. Truman Parkway
Annapolis, MD 21401

410-841-5864

www.mda.state.md.us



Martin O'Malley, Governor | Anthony G. Brown, Lt. Governor | Earl F. Hance, Secretary